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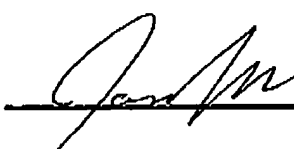
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PTO/SB/33 (07-05)

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| <b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>   |  | <b>Docket Number (Optional)</b><br><br>71,033-014                                   |                              |
| I hereby certify that this correspondence is being transmitted via facsimile to the U.S. Patent & Trademark Office to fax number (571) 273-8300  |  | Application No.<br>10/828,756   | Filed<br>April 21, 2004      |
| On <u>December 13, 2005</u><br>Signature <u>Melissa S. Dadisman</u><br>Typed or printed name <u>Melissa S. Dadisman</u>  |  | First Named Inventor <b>WILLIAM R. KISSEL</b>                                       |                              |
|  |  | Art Unit<br>3661  | Examiner<br>Tan Quang Nguyen |
| Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.   |  |   |                              |
| This request is being filed with a notice of appeal.   |  |   |                              |
| The review is requested for the reason(s) stated on the attached sheet(s).<br>Note: No more than five (5) pages may be provided.   |  |   |                              |
| I am the   |  |  |                              |
| <input type="checkbox"/> applicant/inventor.   |  | Signature   |                              |
| <input type="checkbox"/> assignee of record of the entire interest.<br>See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.<br>(Form PTO/SB/96)  |  | James R. Yee<br>Typed or Printed Name   |                              |
| <input checked="" type="checkbox"/> attorney or agent of record.<br>Registration Number 34,460   |  | (248) 723-0349<br>Telephone Number  |                              |
| <input type="checkbox"/> attorney or agent acting under 37 CFR 1.34.<br>Registration number if acting under 37 CFR 1.34.   |  | December 13, 2005<br>Date   |                              |
| NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*. |  |   |                              |

☒ \* Total of 1 forms are submitted.

This collection of information is required by 37 CFR 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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DEC 13 2005


**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application: William R. Kissel Group Art Unit: 3661  
Application No.: 10/828,756 Examiner: Tan Quang Nguyen  
Filed: April 21, 2004  
For: BRAKE CONTROL SYSTEM AND METHOD  
Attorney Docket No.: 71,033-014

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**CERTIFICATE OF FACSIMILE**

I hereby certify that these **Pre-Appeal Brief Remarks** for U.S. Serial No.: 10/828,756 filed April 21, 2004 is being transmitted via facsimile to the U.S. Patent & Trademark Office to fax number (571) 273-8300 on December 13, 2005.

  
Melissa S. Dadisman

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**MAIL STOP - Appeal Brief-Patent**  
Commissioner of Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**PRE-APPEAL BRIEF REMARKS**

Claims 1-40 remain in the application. The Examiner indicated that claims 3-19 and 22-38 contain allowable subject matter. Claims 1, 20, 39 and 40 are independent.

Claims 1, 2, 20 and 21 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,308,134 issued October 23, 2001 to Steven R. Croyle et al. Independent claims 39 and 40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants "admitted art" in view of Croyle et al.

Independent claim 1 is representative. The present invention as set forth in independent claim 1 sets forth a method for establishing an acceleration of a vehicle. The method includes the steps of establishing *a gravity vector representing acceleration due to gravity*, measuring acceleration of the vehicle in the first direction and establishing a first acceleration value, and measuring acceleration of the vehicle in the second direction and establishing a second acceleration value. The method also includes the step of *establishing a magnitude of a horizontal component of acceleration of the vehicle as a function of the gravity vector and the first and second acceleration values*. Independent

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claim 39 sets forth a method claim with similar steps. Independent claims 20 and 40 are apparatus claims and contain corresponding elements.

The gravity vector represents the acceleration solely due to the force of gravity (see paragraph [0032]) and is independent of the orientation of the vehicle or the accelerometers, i.e., it always points straight down in the direction of the force of gravity.

Croyle discloses a vehicle navigation system which combines GPS with information received from a multiple axis accelerometer. The Croyle navigation system uses the accelerometer information to improve or update the position of a vehicle. The accelerometer sensor 28 provides acceleration information in at least two orthogonal axis, i.e., a lateral axis and a vertical or longitudinal axis *with respect to the vehicle*. The vertical and/or lateral acceleration information is used to update the position of the vehicle. It is important to note that it is clear that the vertical/longitudinal acceleration information in Croyle is *respect to the sensor or the vehicle*, and is not related to gravity and does not relate to or reflect a gravity vector. For example, column 9, lines 15-16 states: the "longitudinal accelerometer measures the acceleration along the nose/tail of the vehicle". Since the lateral accelerometer is perpendicular to the longitudinal accelerometer, lateral acceleration is measured perpendicular to longitudinal acceleration. Neither vertical nor lateral acceleration is representative of the acceleration due to gravity.

Croyle makes some mention of a third accelerometer for measuring acceleration along a third axis (see for example, column 1, line 66 to column 2, line 6). In fact, confusingly, Croyle does state that "one [of the accelerometers] will be measuring the Earth's gravity." However, this is misleading and is inconsistent with the actual teaching of Croyle. The orientation of the third accelerometer is fixed with respect to the other accelerometers, i.e., they are mutually orthogonal (see column 1, lines 50-54). Thus, their orientation with respect to the Earth will be dependent upon the mounting of the device with respect to the vehicle and the vehicle's orientation. Since the acceleration measured by the third accelerometer must be along its axis, the measured acceleration cannot be truly be said to be representative of the acceleration due to gravity since its orientation would always be changing with the vehicle's orientation.

Applicants respectfully assert that the Croyle system does not establish a gravity vector representing acceleration due to gravity, as required by independent claims 1, 20, 39 and 40.

Furthermore Croyle does not establish a magnitude of a horizontal component of the acceleration of the vehicle *as a function* of the gravity vector and the first and second

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acceleration values. At best, the Croyle system establishes a lateral acceleration and/or a vertical acceleration, and arguably a third acceleration, the direction of which are constantly changing with motion of the vehicle, and therefore, cannot be said to be a gravity vector. The actual direction of the three axis of the accelerometer in Croyle are dependent upon the (fixed) mounting of the accelerometer in the device and the instantaneous orientation of the vehicle. For convenience and for plugging in the data into its equations, Croyle simply assigns one axis of the accelerometer as pertaining to longitudinal acceleration information and, one axis to lateral acceleration information based on comparing their information with prior GPS information (see column 5, lines 11-57). The third axis, by default, is assigned to the "down axis". However, Croyle uses the acceleration information to update the position of the vehicle in three dimensional space. Thus, Croyle does not (because it has no need of) determine a true horizontal component of the acceleration which is independent of mounting of a device or orientation of the vehicle. At best, Croyle determines acceleration along three axis, one of which it calls longitudinal (but is longitudinal in name only), and furthermore, is not established as a function of "as a function of the gravity vector and the first and second acceleration values" as required by independent claims 1, 20, 39 or 40.

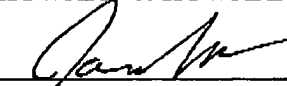
Since the Croyle system does not include at least one limitation of independent claims 1, 20, 39, or 40, Applicant respectfully asserts that the 102(b) and 103(a) rejections of claims 1-2, 20-21, and 39-40 are not proper and must be withdrawn.

Accordingly, it is respectfully submitted that the Application, is presented in condition for allowance, which allowance is respectfully solicited. Applicant believes that no additional fees are due with this submission, however, if any become required, the Commissioner is hereby authorized to charge any additional fees or credit any overpayments to Deposit Account 08-2789. Further and favorable reconsideration of the outstanding Office Action is hereby requested.

Respectfully submitted

HOWARD & HOWARD ATTORNEYS, P.C.

December 13, 2005  
Date

  
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